Unit 04 – Programming

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4.25 Learning Aim B – Software Features

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Learning Objectives

To be able to explain what is meant by Software Features.

To be able to identify software features from a requirement.

To be able to extract software features from a requirement.

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Software Features

Now that we have a client brief.

We have now identified the problem definition statements.

We can start to identify the software features required by the program.

You will need to identify all of these in your actual assignment.

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Inputs and Outputs

Inputs are data that is **ENTERED INTO** the program.

Outputs are data that **COMES OUT** of your program.

This could be the result of a calculation or an error message.

For both, you will need to identify the Data and the Datatype.

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Class Task 25.1 – Inputs and outputs

- Individually or in small groups.
- Identify the Inputs and Outputs for the EBCC Scenario Program.
- Present your findings to the group.
- **TIME ALLOWED**: 10 minutes.

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Class Task 25.1 – Suggested Answers

Input	DataType	Purpose
Customer Name	String	To identify the customer when placing the order
Table size	Integer	Says how many people are eating.
Menu Choice	Integer	Allows the customer to choose the menu option
PaymentType	String	Specifies payment by cash or card
LeaveTip	String	Specifies whether a user is leaving a tip.

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Class Task 25.1 – Suggested Answers

Output	Data Type	Purpose
Main Menu	String	Displays the initial choice to the user
Menu options	String	Shows the menu choices
Error Message	String	Whenever a user enters a non-numerical number or enters an invalid choice.
Customer choices	String	A grid showing the name of the person, their menu choice and the price
Menu total	Double	The total of all the individual items
Card Surcharge	Double	10% of the total
Final Total	Double	The total, with card surcharge and tip – if chosen.

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Key Program Tasks

This is the important tasks that the program needs to do.

It does not need to be very detailed at this stage.

You should be able to identify this from the requirement brief.

These Key Tasks can end up being functions or procedures in the program.

For example, a key program task is to display the menu items.

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Class Task 25.2 – Key Tasks

Individually or in small groups.

Identify the Key Tasks for the EBCC Scenario Program.

Present your findings to the group.

TIME ALLOWED: 10 minutes.

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Class Task 25.2 – Suggested Answers

Task ID	Task
1	Be able to select between 3 and 5 customers.
2	Store between 3 and 5 Menu Choices
3	Add up the menu item total.
4	Calculate the card surcharge.
5	Display the final total.
6	Display the customers and their choices as a grid.

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Self-Check: Lesson Review

- Can I identify program inputs and outputs from a client brief?
- Can I identify the main program tasks from a client brief and develop a timescale?
- Can I design programs and algorithms using flowcharts, pseudocode and diagrams?
- Can I identify the data validation requirements from a client brief or from the algorithms?
- Can I get useful feedback and improve my designs based on feedback??

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Further Reading

Websites:

https://codeasy.net/lesson/input_validation

https://xd.adobe.com/ideas/process/ui-design/4-golden-rules-ui-design/

https://www.visual-paradigm.com/tutorials/flowchart-tutorial/

Videos:

https://www.youtube.com/watch?v=BUCpZRliPPA

https://www.youtube.com/watch?v=_GVZT0UWfTw

https://www.youtube.com/watch?v=SWRDqTx8d4k

https://www.youtube.com/watch?v=GsfZD4oU7l0

https://www.youtube.com/watch?v =vOEN65nm4YU

Textbook: pages 256 - 267

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